

JOURNAL OF SOUND AND VIBRATION

EDITOR
P. E. Doak

EDITORIAL BOARD

W. A. Allen
H. O. Berkta
R. E. D. Bishop
B. L. Clarkson
R. Cohen
D. G. Crighton
I. Dyer
C. L. Dym
A. Freedman
G. M. L. Gladwell
M. Heckl
D. J. Johns
A. W. Leissa
D. J. Mead
H. G. Morgan
R. A. Piesse
E. J. Richards
D. W. Robinson
J. D. Robson
A. Tondl
G. B. Warburton

VOLUME 93
March to April 1984

ACADEMIC PRESS

LONDON ORLANDO SAN DIEGO
SAN FRANCISCO NEW YORK TORONTO
MONTREAL SYDNEY TOKYO SÃO PAULO

ISSN 0022-460X



CONTENTS OF VOLUME 93

NUMBER 1, 8 MARCH 1984

COMNINOU, M., Frictional slip and separation in the transonic range caused by a plane stress pulse	1
AZIMI, S., HAMILTON, J. F. and SOEDEL, W., The receptance method applied to the free vibration of continuous rectangular plates	9
CHONAN, S., Response of a pre-stressed, orthotropic thick cylindrical shell subjected to a pressure pulse	31
PETERSEN, R. A. and SAROHIA, V., The effect of forward flight on the noise and flow field of inverted profile jets	39
WANG, K. S. and TSZENG, T. C., Propagation and radiation of sound in a finite length duct	57
FAN, S. C. and CHEUNG, Y. K., Flexural free vibrations of rectangular plates with complex support conditions	81
WHITE, M. F., Simulation and analysis of machinery fault signals	95
BAUER, H. F., Oscillations of immiscible liquids in a rectangular container: A new damper for excited structures	117
TO, C. W. S., Time-dependent variance and covariance of responses of structures to non-stationary random excitations	135

Letters to the Editor

PETROSKI, H. J., Comments on "Free vibration of beams with abrupt changes in cross-section"	157
SATO, H., Author's reply	158

NUMBER 2, 22 MARCH 1984

LJUNGGREN, S., Generation of waves in an elastic plate by a torsional moment and a horizontal force	161
MAZUMDAR, J. and HILL, D., Thermally induced vibrations of viscoelastic shallow shells	189
SALIKUDDIN, M., DANIEL, B. R. and ZINN, B. T., Experimental observations of the dependence of impedance tube behavior upon gas phase losses and propellant self-noise	201
BOLTON, J. S. and GOLD, E., The application of cepstral techniques to the measurement of transfer functions and acoustical reflection coefficients	217
GORMAN, D. J., An exact analytical approach to the free vibration analysis of rectangular plates with mixed boundary conditions	235
GAYLARD, M. E., Smoothed frequency responses for matrix-characterized vibrating structures	249

FAVRE, B. M. and GRAS, B. T., Noise emission of road vehicles: Reconstitution of the acoustic signature	273
WAUGH, R., Simplified hearing protector ratings—an international comparison	289

Letters to the Editor

KOHLI, A. K. and NAKRA, B. C., Vibration analysis of straight and curved tubes conveying fluid by means of straight beam finite elements	307
JACQUOT, R. G., Further comments on "Vibration of a cantilever beam with a base excitation and tip mass"	312
BHAT, R. B., Obtaining natural frequencies of elastic systems by using an improved strain energy formulation in the Rayleigh-Ritz method	314

NUMBER 3, 8 APRIL 1984

FULLER, C. R., Propagation and radiation of sound from flanged circular ducts with circumferentially varying wall admittances, I: Semi-infinite ducts	321
FULLER, C. R., Propagation and radiation of sound from flanged circular ducts with circumferentially varying wall admittances, II: Finite ducts with sources	341
WANG, Y. T., SINGH, R., YU, H. C. and GUENTHER, D. A., Computer simulation of a shock-absorbing pneumatic cylinder	353
SUZUKI, S.-I., Dynamic behaviour of reactor structures subjected to impulsive loads	365
PELEG, K., Impact and vibration testing of shipping containers	371
KUMAR, B. and DRAKE, M. L., Constrained layer damping with vitreous enamel	389
SINGER, J., RAND, O. and ROSEN, A., Vibrations of axially loaded stiffened cylindrical panels with elastic restraints	397
WEAVER, D. S. and YEUNG, H. C., The effect of tube mass on the flow induced response of various tube arrays in water	409
CHONAN, S., Dynamic response of a prestressed, orthotropic thick plate strip to a moving line load	427
CHEN, S. S., Guidelines for the instability flow velocity of tube arrays in crossflow	439

Letters to the Editor

HAUGHTON, D. M., Comments on "Stability and vibrations of spinning tubes subjected to uniform radial pressure"	457
ERTEPINAR, A., Author's reply	457
CARPENTER, P. W., The effect of a boundary layer on the hydroelastic instability of infinitely long plates	461
SOEDEL, W., On the philosophy of absolute truth in structural vibrations	465
MILNE, H. K., A note on the calculation of frequency response functions by the inverse method	469

PAGE, N. W. and MEE, D. J., Wall effects on sound propagation in tubes	473
WILLIAMS, F. W. and BANERJEE, J. R., Accurately computed modal densities for panels and cylinders, including corrugations and stiffeners	481
DESILVA, C. N. and CHEN, H. Y., Dynamic non-linear response of beams subjected to impact loads	489
NARITA, Y., Free vibration of continuous polar orthotropic annular and circular plates	503
IRIE, T., YAMADA, G. and KOBAYASHI, Y., Free vibration of a point-supported membrane stretched by inextensible strings	513
NEERHOFF, F. L. and VAN DER HIJDEN, J. H. M. T., Diffraction of elastic waves by a sub-surface crack (anti-plane motion)	523
BEISSNER, K., Acoustic radiation pressure in the near field	537
GASCH, R., MAURER, J. and SARFELD, W., Soil influence on unbalance response and stability of a simple rotor-foundation system	549
JEZEQUEL, L., Stability of vehicles moving on an elastic foundation	567

Letters to the Editor

SÁNCHEZ SARMIENTO, G., LAURA, P. A. A. and GUTIÉRREZ, R. H., Comments on "Free transverse vibrations of uniform circular plates and membranes with eccentric holes"	585
LIN, W. H., Author's reply	586
HALLIWELL, N. A., PICKERING, C. J. D. and EASTWOOD, P. G., The laser torsional vibrometer: A new instrument	588
NARITA, Y., Note on vibrations of point supported rectangular plates	593
CROKER, M. D., Determination of displacement by double integration of accelerometer signals	598
ANNOUNCEMENTS	601
BOOK REVIEW	611
HUMAN RESPONSE TO VIBRATION	613
INDEX TO VOLUME 93	617

Copyright © 1984, by Academic Press Inc. (London) Ltd.

ALL RIGHTS RESERVED

No part of this volume may be reproduced in any form, by photostat, microfilm, or any other means, without written permission from the publishers.

Printed in Great Britain